

REMARKS

Reconsideration and allowance are respectfully requested.

The specification and some of the claims have been amended to improve form, grammar, and readability. A new abstract is submitted for the same reasons. System claim 4 has been amended to remove “means” language. None of the claim amendments is a narrowing amendment. Approval and entry are requested.

Claims 1-23 stand rejected under 35 U.S.C. §103 as allegedly being unpatentable based on Ferstenberg in view of Wang. This rejection is respectfully traversed.

Ferstenberg discloses a computer system that facilitates an intermediated exchange of financial commodities between participants using e-agents (software programs) representing the participants and a negotiation protocol. The e-agent program for a participant encodes goals and objectives of the participant and performs electronic negotiations in order to achieve the objectives of the participant. As the Examiner admits, Ferstenberg lacks many claim features including (but not limited to) providing a secondary site, storing replicas of orders and deals formulated at the primary site, and using the deals stored at the secondary site to update the orders stored at the secondary site.

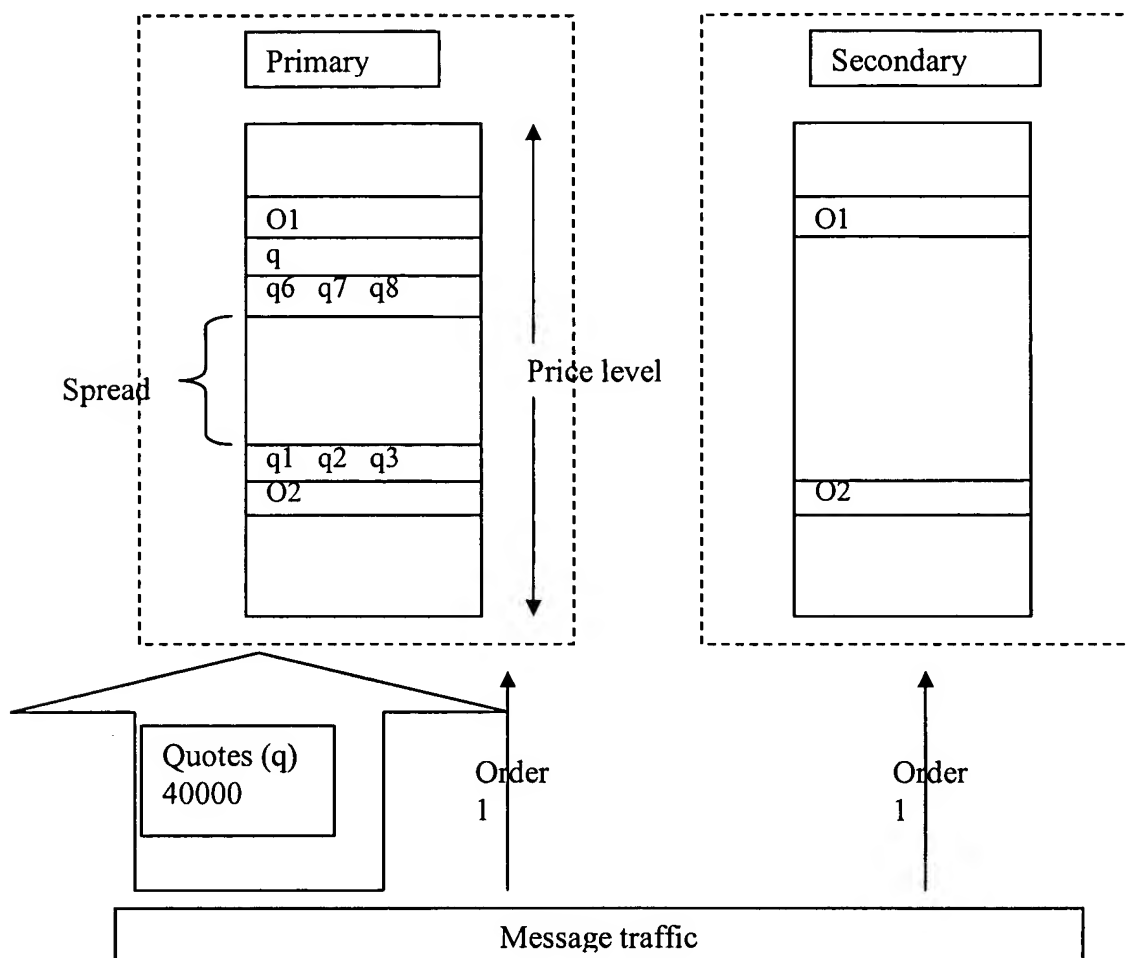
For the missing features, the Examiner cites Wang which describes a site failover system that provides additional computational resources. Specifically, a controller automatically configures a second host computer to use the data of a first host computer and to provide additional computational resources. There is no distinction between what data is stored at the primary site and what data is stored at the secondary site. Rather, Wang teaches that all data or parts of certain data may be replicated to the secondary site (col.9, lines 36-56 and col. 10, line 58 to col. 11, line 65). The “data” in Wang comprises operating system information, application

program information, and application program data. But Wang does not describe any intelligent selection and transfer of a particular subset of data to the secondary site in combination with using that subset of data to update a larger data set in order to save bandwidth and hardware resources.

In claim 1, the primary site receives and stores both quotes (from market makers) and orders (from investors). See the definitions in the specification in the paragraph bridging pages 3 and 4. One of the reasons for maintaining a back-up site is the hope of surviving major disasters. To do this effectively, one would assume that all of the data from the primary site needs to be provided to the secondary site. A problem with this assumption and with traditional fail-over systems is the sheer volume of information used in some trading systems. Given the large volume, practical bandwidth and processing resources limit the distance the information can be transferred. The dilemma then is the desire to maintain a larger (rather than shorter) geographical distance between the sites with the hope that only one site would be significantly undermined in the event of a major disaster versus the reality of practical bandwidth and resources limitations. The inventor in this application solved this dilemma.

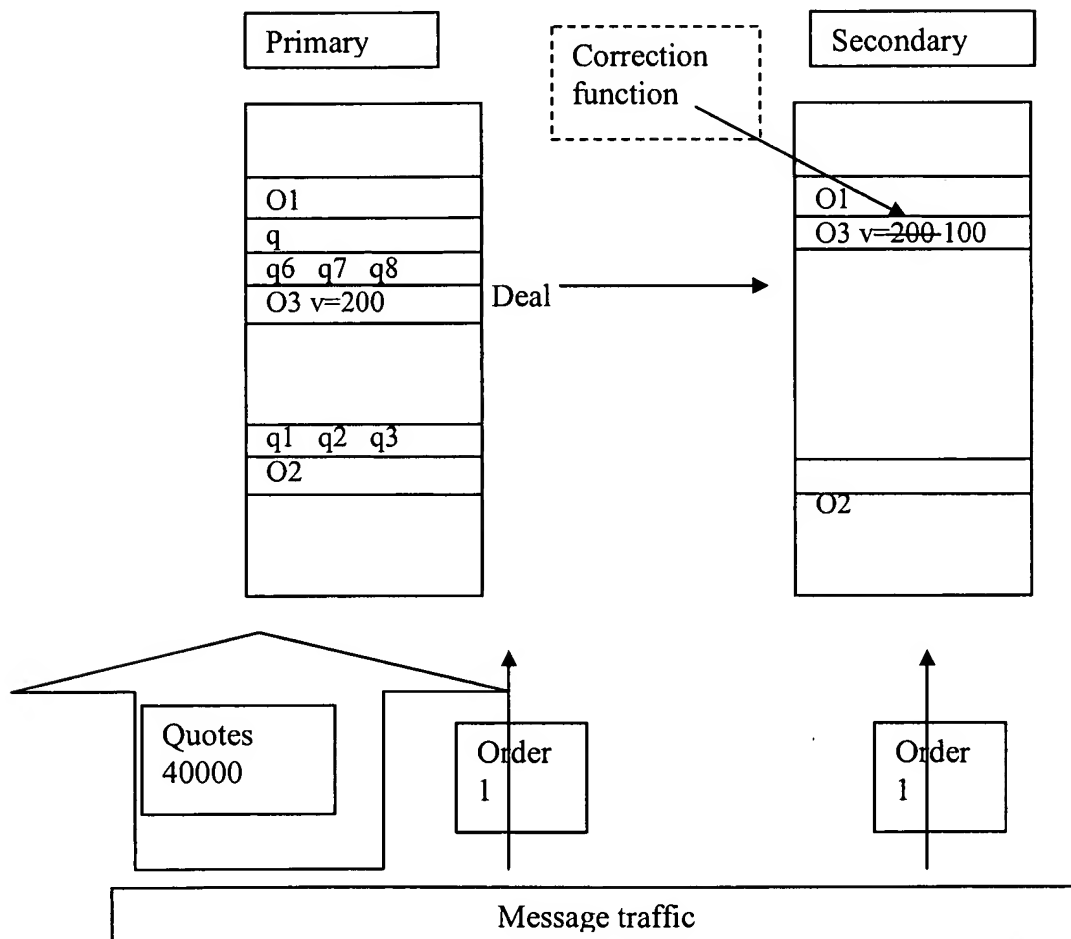
Consider a non-limiting example where the quote/order rate is approximately 40,000 to 1, as illustrated in the figure below. Market makers usually generate new quotes for each of the instruments traded on the primary site exchange that they are responsible for at least every second. At this kind of re-quote rate, the inventor in this application realized that it is not necessary to transfer the quotes to the secondary site and update the secondary site orderbook because the market makers will generate another re-quote if the primary site fails. Only order and deal information from the primary site is regularly transferred to and stored at the secondary site. As a result, the inventor determined that substantial bandwidth and resources can be saved

by not transferring and storing the huge quote volumes at the secondary site. Instead, a corrective function at the secondary site uses the deal (match) information to update the orders. In the figure below, orders O1 and O2 are stored at both the primary and secondary sites, but not the 40,000 quotes (q).



The following figure illustrates the updating procedures implemented in one example embodiment by a corrective function, at the secondary site. A third order O3 arrives and matches a portion of quotes q6-q8 which are on the same price level (in this example, pro-rata matching is used). Specifically, order O3 is for a volume of 200 contracts, and quotes q6-q8 have a total volume of 100. After the deal (match), order O3 has 100 contracts left, which means

that the secondary site needs updating. The primary site transfers the deal (match) information to the secondary site, and the corrective function uses it to update order O3 to a volume of 100 contracts.



Combining Ferstenberg with Wang produces a electronic exchange system with e-agents and a secondary site that, after receiving data from the primary site, could take over if the primary site fails or provide additional computational resources if necessary. But there is no teaching or suggestion of transferring to and storing at the secondary site replicas of the orders and deals at the primary site, but not quote information, and then using the stored deal

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information to update orders at the secondary site. Neither reference teaches such a technological approach in order to reduce bandwidth and resource requirements while at the same time providing a fail safe system. Indeed, Wang teaches the conventional fail safe approach described in the background of this application of sending a "mirrored copy of each volume of data of the primary host computer 110 that is mirrored to a corresponding volume of data that is accessible to the secondary host computer 120." Column 9, lines 49-54. In the example illustration above, the mirror copies would include the 40,000 quotes along with the deal and order information. The bandwidth and resource drain in the Ferstenberg-Wang system would be much greater than that required by the claimed technology.

The application is in condition for allowance. An early notice to that effect is requested.

Respectfully submitted,

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